

Claims

What is claimed is:

- See A1*
1. A portable communications and display system, comprising:
a chip antenna to transmit and receive RF signals;
a lens material for mounting the chip antenna;
a conductive material for providing a chip antenna ground plane, wherein the conductive material provides an operative coupling between the lens material and the chip antenna; and
a communications subsystem that is associated with the lens material and is operatively coupled to the chip antenna for processing the RF signals.
 2. The system of claim 1, further comprising circuit material for coupling the chip antenna to the communications subsystem.
 3. The system of claim 2, wherein the circuit material is at least one of a printed circuit board and a flexible circuit material.
 4. The system of claim 2, wherein the circuit material is adhesively coupled to the lens material.
 5. The system of claim 3, wherein the circuit material is coupled to a display.
 6. The system of claim 2, wherein connectors are utilized to couple the circuit material to the communications subsystem.
 7. The system of claim 3, wherein the flexible circuit material is utilized to couple the chip antenna to the communications subsystem.

8. The system of claim 5, wherein the circuit material is coupled to the communications subsystem through an opening in at least one of the conductive material, lens material, and display material.

9. The system of claim 5, wherein the circuit material is coupled to the communications subsystem by passing over at least one of the conductive material, lens material, and display material.

10. The system of claim 1, wherein the conductive material is at least one of a coating, treatment, film and screen mesh.

11. The system of claim 1, wherein the communications subsystem includes at least one of an RF transmitter and receiver.

12. The system of claim 11, wherein the communications subsystem is at least one of a cell-phone, pager, Personal Digital Assistant (PDA), scanner, hand-held computer, and portable computer.

13. The system of claim 1, wherein the lens material is at least one of glass, Plexiglas, and plastic.

14. The system of claim 1, further comprising a bezel to provide protection for the chip antenna.

15. A method providing portable communications and display, comprising:
utilizing a chip antenna for transmitting and receiving RF signals;
applying a conductive material to a lens material to provide a ground plane for the chip antenna;
mounting the chip antenna to the conductive material and lens material; and
coupling the chip antenna to a communications subsystem that is associated with the lens material for processing the RF signals.
16. The method of claim 15, further comprising utilizing circuit material for coupling the chip antenna to the communications subsystem.
17. The method of claim 16, wherein the circuit material is at least one of a printed circuit board and a flexible circuit material.
18. The method of claim 16, wherein the circuit material is adhesively coupled to the lens material.
19. The method of claim 16, further comprising, coupling the lens material to a display.
20. The method of claim 16, wherein connectors are utilized to couple the circuit material to the communications subsystem.
21. The method of claim 17, wherein the flexible circuit material is utilized to couple the chip antenna to the communications subsystem.
22. The method of claim 15, wherein the conductive material is at least one of a coating, treatment, film and screen mesh.

23. The method of claim 15, wherein the communications subsystem includes at least one of an RF transmitter and receiver.
24. A system providing portable communications and display, comprising:
a chip antenna for transmitting and receiving RF signals;
means for coating a lens material to provide a ground plane for the chip antenna;
means for mounting the chip antenna to the lens material; and
means for coupling the chip antenna to a communications subsystem that is associated with the lens material for processing the RF signals.
25. A portable communications system, comprising:
a chip antenna to at least one of transmit and receive an RF signal;
a transceiver operatively coupled to the chip antenna to process the RF signal; and
a lens material having a coating that provides a chip antenna ground plane to enable the RF signal processing.
26. The system of claim 25, wherein the coating is at least one of a transparent and a translucent material.